

REMARKS

Claims 1-21 and 32-44 have been cancelled. Claims 45-49 have been added. No new matter has been added. The Office Action is discussed below.

CLAIMS OBJECTIONS**PARAGRAPH 2 OF OFFICE ACTION**

Claims 13 and 41 are objected to because of informalities.

Claims 13 and 41 have been canceled. Applicant requests that the objection be removed.

CLAIM REJECTIONS UNDER 35 USC 102 AND 103**PARAGRAPHS 3-10 OF OFFICE ACTION**

In view of the cancellation of claims 1-21 AND 32-44, the claim rejections 35 USC 102 (paragraphs 2-7) and 35 USC 103 (paragraphs 8-10) have been overcome and applicant requests they be removed.

DOUBLE PATENTING**PARAGRAPHS 11 OF OFFICE ACTION**

A terminal disclaimer is provided.

ANALYSIS OF NEW CLAIMS 45-49 WITH REGARD TO CITED REFERENCES

new independent claim 45 recites:

A memory element, comprising:

a substrate;

a cup-shaped electrical contact electrically coupled to said substrate, said cup-shaped contact having an open end facing away from said substrate, said contact including one or more protrusions extending upward from the rim of said cup-shaped contact;

a dielectric material formed over the interior surface of said cup-shaped contact; and

a programmable resistance material electrically coupled to at least one of said protrusions.

Gonzalez (US 5,854,102)

Gonzalez (Fig. 8) discloses a memory element that includes plug 38 of polysilicon. Gonzalez fails to teach or suggest a cup-shaped electrical contact as claimed by applicant in claim 45.

Doan (US 6,423,621)

Doan (Fig. 14) is directed to a method of forming a memory element wherein the lower electrode includes a tip (114) protruding toward the memory material. However, Doan fails to teach or suggest a cup-shaped electrical contact as claimed by applicant in claim 45.

Ovshinsky (US 5,687,112)

Ovshinsky '112 (Figs. 1 and 2) is directed to an electrical contact that tapers to a peak adjacent to a memory material. Ovshinsky '112 also fails to teach or suggest a cup-shaped electrical contact having an open end facing away from said substrate as claimed by applicant in claim 45.

Ovshinsky (5,414,271)

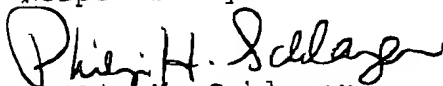
Ovshinsky '271 (Fig. 1) shows a cup-shaped conductive layer 32,34 having a open end facing away from substrate 16. However, Ovshinsky fails to teach or suggest the limitation "a dielectric material formed over the interior surface of said contact" as recited in independent claim 45. In contrast, Ovshinsky '271 teaches a memory material 36 of chalcogenide deposited over the interior surface of cup-shaped structure formed by layer 32,24 (see column 16, line 42).

In view of the above remarks, each of the references Gonzalez, Doan, Ovshinsky '112 and Ovshinsky '271, either alone or in combination, fails to teach or suggest the limitations of applicant's new independent claim 45. Claims 45-49 depend from claim 45. Hence, the cited references fail to teach or suggest all of the limitations of any of the dependent claims.

SUMMARY

Claims 1-21 and 32-44 have been cancelled and claims 45-49 have been added. Applicant respectfully requests reconsideration, withdrawal of the outstanding objections and rejections, and notifications of allowance. Should the Examiner have any questions or suggestions regarding the prosecution of this application, he is asked to contact applicant's representative at the telephone number listed below.

Respectfully submitted,


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